Dissertation on

LID TUMORS – MANAGEMENT IN A TERTIARY CARE CENTRE – A STUDY

Submitted in partial fulfillment of requirements of

M.S. DEGREE BRANCH III
OPHTHALMOLOGY

of

THE TAMILNADU
Dr. M.G.R. MEDICAL UNIVERSITY,
CHENNAI.

MADRAS MEDICAL COLLEGE AND
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CHENNAI - 600 003.

MARCH 2008

CERTIFICATE

This is to certify that this dissertation in " LID TUMORS – MANAGEMENT IN A TERTIARY CARE CENTRE – A STUDY" is a work done by Dr.Anuradha A, under my guidance during the period 2005 - 2008. This has been submitted in partial fulfillment of the award of M.S. Degree in Ophthalmology, (Branch - III) by the Tamil Nadu Dr. M.G.R. Medical University,

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ACKNOWLEDGEMENT

I would like to thank **Prof.Dr.T.P.KALANITI., M.D.,** Dean, Madras Medical College and Research Institute for giving me permission to conduct the study in this Institution.

With respect and gratitude, I thank **Prof. Dr.V.VELAYUDHAM, M.S., D.O.,** Director, Regional Institute of Ophthalmology and Govt. Ophthalmic Hospital, Chennai, for assigning this topic for study and also for his guidance through out my post graduate course.

I wish to express my sincere thanks and gratitude to my Unit Chief, **Prof. M.RADHAKRISHNAN. M.S.,DO,** for the valuable help rendered at various stages of the study and also for her guidance through out my post graduate course.

My heartfelt thanks to **Dr. R.MALARVIZHI,**
Dr. A. YOGESHWARI and **Dr. A.SAMARAPURI,** who helped me in conducting this study. I wish to express my sincere thanks to all the **Professors, Assistant professors** and all my **colleagues** who helped me in bringing out this study.

I am indebted to all my **patients** for their sincere co-operation for completion of this study.

CONTENTS

INTRODUCTION

Eyelid is a complex structure and the multitude of tumors arising from it are classified according to the eyelid structures from which the arise. These tumors differ from other coetaneous lesions because of the unique characteristics of eyelid skin.

Accuracy in diagnosis requires an awareness of the many different lesions, familiarity with practical classification and accurate histopathological examination. The accurate diagnosis is of great value in deciding the appropriate treatment.

Treatment modalities of lid tumors are plenty but surgery has been primarily described for most tumors. Most errors in the management of lid tumors are the result of inaccurate diagnosis, lack of appropriate histological studies or due to inadequate surgical margins.

Ophthalmic diseases rarely threaten life, however there are certain eyelid tumors that have propensity for aggressive growth and life threatening metastasis.

ANATOMY OF THE EYELIDS

A thorough knowledge of eyelid anatomy is essential for a surgeon who performs lid reconstruction. The tissues of the eyelid from anterior to posterior are described as follows.

- Skin and subcutaneous tissue
- Muscles of protraction
- Fibrous layer including tarsal plate
- Muscles of retraction
- Conjunctiva

SKIN

Eyelid skin is the thinnest of the body without subcutaneous fat. Skin is made of stratified squamous epithelium. At the lid margin the skin is continuous with the conjunctiva at the greyline. There are 100 to 150 cilia in the upper lid and 50 in the lower lid.

ORBICULARIS OCULI

It is the main protractor of the eyelid. Contraction of this muscles narrows the palpebral fissure. It is divided into pretarsal,

preseptal, orbital parts. Palpebral part is confined to the lids and arises from the medial canthal tendon and is inserted into the lateral canthal tendon and lateral orbital tubercle. Pars lacrimalis (tensor tarsi muscle) arises from posterior lacrimal crest and inserted into medial border of tarsal plate. Pars ciliaris(muscle of Riolan) is an isolated fasciculus of fine muscle running along lid margin.

TARSAL PLATES AND CANTHAL TENDONS

Tarsal plates are firm dense plates of fibrous tissue without cartilage that serve as the internal skeleton of the lid. Superior tarsus is D shaped measuring 10 to 12 mm in height the midline. Inferior tarsus is oblong 4mm in height. Both are 1mm thick and their ends taper at the medial and lateral ends.

The medial canthal tendon arises from anterior and posterior lacrimal crest and it splits temporal to the lacrimal sac into an upper limb and a lower limb that attach to the upper and lower tarsal plates.

The lateral canthal tendon is about 7mm long, attached to the lateral orbital tubercle. It splits into superior and inferior branches that attach to the respective tarsal plates.

MUSCLES OF RETRACTION

Levator palpebrae superioris originates from the lesser wing of sphenoid .The muscular portion is 40mm long. The aponeurosis is 15mm long coursing downwards to insert into anterior surface of tarsus.

Mullers muscle originates at the undersurface of the levator and inserts into the upper tarsal border. It is sympathetically innervated.

The capsulopalpebral fascia in the lower lid is analogous to the levator of the upper lid. It arises from the terminal muscle fibres of the inferior rectus and insert onto the lower tarsal border.

CONJUNCTIVA

It is composed of nonkeratinising squamous epithelium. It contains the mucin secreting goblet cells and the accessory lacrimal glands.

GLANDS OF THE EYELIDS

External skin of the lid contains small sweat and sebaceous glands, in addition it contains large modified sebaceous glands embedded in the tarsus. The meibomian glands number approximately 20 to 25 in each tarsal plate. The are elongated tubular structure with their ducts opening into the lid margin. Their acini

show the usual picture of sebaceous glands, polyhedral cells loaded with cebum. The ducts are lined with stratified squamous epithelium which develop keratinization near their termination. Meibomian secretion is pale yellow in colour.

The glands of Zeis are also modified sebaceous glands opening into the follicles of cilia. The glands of Moll are simple sweat glands situated near the lid margins and in close association with Zeis glands. The glands of Krause and Wolfring are accessory lacrimal glands numbering 2 to 3 in each lid.

BLOOD SUPPLY OF THE EYELIDS

ARTERIES

The blood supply to the lids is derived mainly from medial and lateral palpebral branches of the ophthalmic and lacrimal artery. Branches of these vessels form the tarsal arches, two in the upper lid and one in the lower lid. Marginal artery passes 3mm from the lid margin between tarsal plate and orbicularis.

VEINS

The superior and inferior palpebral arcades drain into the angular vein of medial canthus. Angular vein drains into the internal

jugular vein. Post tarsal drainage is into the orbital veins, anterior facial vein.

LYMPHATIC DRAINAGE

The lymphatics are arranged in pre and post tarsal plexus connected by cross channels. The post tarsal plexus drains conjunctiva and tarsal glands. The pretarsal plexus drains the skin. Lateral portion of lid drains into the preauricular and deep cervical nodes while those from medial side drain into submandibular lymph nodes.

NERVE SUPPLY

MOTOR

The orbicularis occuli is supplied by the facial nerve, the levator by the occulomotor nerve. Mullers muscle is supplied by post ganglionic sympathetic nerve fibres.

SENSORY

Upper lid is supplied by supraorbital nerve, lacrimal nerve, branches of the ophthalmic division of the trigeminal nerve.

The lower lid is supplied by the infraorbital nerve, branch of maxillary division of trigeminal nerve.

FUNCTIONS OF THE EYELIDS

The protective system of the eyelids are mediated by the following.

- The screening and sensing action of the cilia
- The secretions of the meibomian glands, Zeis glands form the superficial lipid layer of tear film, the middle aquous layer is formed by fluid secreted from the accessory lacrimal glands.
- The third important element is the closure of eyelids by the action of orbicularis occuli. Types of lid closure are affected by different combinations of fibre bundle action of orbicularis.

CLASSIFICATION OF LID TUMORS

Duke Elder has classified tumors of the eyelid into eight categories

1. EPITHELIAL TUMORS
a. Cutaneous

Benign- Papilloma, senile keratosis, keratoacanthoma, seborrheic keratosis,

inverted follicular keratosis, trichoepithelioma, benign calcifying epithelioma.

Malignant- Squamous cell epithelioma, basal cell epithelioma, intraepithelial carcinoma, xeroderma pigmentosa.

b. Glandular

Tumors of sebaceous glands- Adenoma of the meibomian, Zeis glands
Adenocarcinoma of meibomian, Zeis glands

Tumors of sweat glands- Hidradenoma of skin- syringoma, pleomorphic adenoma
Hidradenocarcinoma of skin, Moll's glands

Papillary cystadenoma lymphomatosum

Oncocytoma

2. MESENCHYMAL TUMORS

Benign- Fibroma, tuberous sclerosis, lipoma, rhabdomyoma, leiomyoma, myxoma.

Malignant- Sarcoma.

3. TUMORS OF THE LYMPHORETICULAR TISSUE

Benign lymphoma, lymphosarcoma, reticulum sarcoma, giant follicular sarcoma, Burkitt lymphoma, mycosis fungoides, plasmacytoma

4. VASCULAR TUMORS

Hemangioma- Capillary, cavernous, plexiform, hemangioendothelioma**,** Hemangiopericytoma, spiderangioma, senile angioma

Telangiectatic granuloma

Angioteratoma of Mibelli

Multiple hemorrhagic sarcoma of Kaposi

Glomus tumor

Lymphangioma, lymphangioendothelioma

5. NERVOUS TISSUE TUMORS

Neurofibromatosis- Plexiform, diffuse, molluscum fibrosum, multiple mucosal neuroma syndrome

Neurilemmoma

Ganglioneuroma

Granular cell Schwannoma of Abrikossoff

6. PIGMENTED TUMORS

Nevus

Malignant melanoma

7. METASTATIC CARCINOMA

8. DEVOLOPMENTAL TUMORS

Dermoids

Teratoma

Phakomatos choristoma

BENIGN TUMORS OF THE EYELIDS

PAPILLOMA

These common tumors usually appear on the lid margins as raspberry like growths or pedunculated lesions. Histologically the show acanthosis and parakeratosis with fibrovascular dermal component. Treatment is by shave excision at the dermal- epidermal junction

SEBORRHEIC KERATOSIS

They are the most common acquired benign papilloma affecting the middle age and elderly patients. They have a lobulated, papillary or pedunculated appearance with visible excrescences. Histologically they show an acanthotic proliferation of basaloid cells. These lesions must be differentiated from basal cell carcinoma, nevi, actinic keratosis.

The prefered technique of removal is by shaving the lesion at the dermal- epidermal junction.

FIBROEPITHELIAL PAPILLOMA

Commonly known as ‘skin tags’, these lesions appear as skin coloured, smooth filiform papules. They are often multiple in number found at the lid margins. Histologically they show proliferation of epithelium with hyperkeratosis around a central fibrous core. Treatment is by simple excision under local anaesthesia.

WARTS

There are two types of verrucae found on the eyelid- verruca

vulgaris and verruca planus. Both are caused by human papilloma virus. Prefered treatment is cryotherapy and light desiccation under local anaesthesia.

INCLUSION CYST(SEBACEOUS CYST)

These are the second most common benign cutaneous lesions. These arise from the infundibulum of the hair follicle, either spontaneously or following trauma. These lesions are slow growing,

elevated, round, smooth tumors with central pore. Although referred to as sebaceous cysts they are actually filled with keratin.

Recommended treatment for small cyst is marsupialisation, larger cyst need complete excision of cyst wall.

MOLLUSCUM CONTAGIOSUM

These are skin coloured papules 2-4mm in size with an umbilicated centre. They are of viral etiology. They are best treated by cryotherapy or by light desiccation.

SYRINGOMA

Benign eccrine sweatgland tumors presenting as multiple, small, waxy, pale yellow nodules 1-2mm in diameter in the lower eyelids. They are common in young females. Because of their dermal location they need deep excision in a staged fashion.

APOCRINE HIDROCYSTOMA

It is a true adenoma of the secretory cells of the glands of Moll. These lesions are translucent, found in the lid margin. Treatment is marsupialisation. They are also known as cystadenomas.

MELANOCYTIC NEVI

Nevi are the third most common benign lesions after papillomas and sebaceous cyst. They arise from incompletely

differentiated melanocytes found in the epidermis, dermis, junctional zone. All nevi undergo evolution through three stages.

Junctional nevi are located in the basal layer of epidermis at the dermal- epidermal junction. Compound nevi extend from the junctional zone into the epidermis and dermis. Dermal nevi have involution of the epidermal component with persistent dermal component.

They require no treatment, but malignant transformation of the compound or junctional nevus rarely occurs.

ACTINIC KERATOSIS

It is the most precancerous skin lesion affecting elderly individuals. They are typically round, scaly plaques with the texture of sand paper. Treatment is with incisional or excisional biopsy, cryodestruction, topical 5- flurouracil.

KERATOACANTHOMA

It is considered to be a low grade squamous cell carcinoma. It begins as a papule on the lower lid that develops into a dome shaped nodule with a central keratin filled crater with rolled margins. Complete surgical excision is the treatment of choice.

HEMANGIOMA

These are hamartomas. Capillary hemangiomas are primarily seen in children, often appearing in the first week of life and enlarging till one year of age. After one year they begin to involute. They are more common in the medial upper eyelids and have high blood flow derived from multiple feeder vessels.

Treatment options include observation, oral prednisolone, local steroid injection, systemic interferon alfa, radiotherapy, surgery.

Cavernous hemangiomas are common in middle aged women usually associated with proptosis. They are encapsulated tumors.

Lymphangiomas are relatively uncommon tumors that may involve the eyelids rarely. These tumors have serum filled spaces lined with endothelial cells. They may suddenly enlarge insize if there is a hemrorrhage into the tumor.

NEUROFIBROMATOSIS

Also known as Von Recklinghausen disease, neurofibromatosis type 1 is characterized by hamartomas involving the skin, eye, CNS.

Plexiform neurofibroma which frequently involve the lateral upper eyelid giving a S shaped contour are due to proliferation of Schwann cells.

Fibroma molluscum are pedunculated skin nodules composed of connective tissue elements. If these lesions become unsightly surgical removal is done with plastic reconstructions.

DERMOID

They are congenital in origin becoming apparent in late childhood. It presents as a smooth painless mass in the medial upper eyelid. They frequently have a dumbbell extension into the orbit. Superficial Dermoids are removed through a eye lid crease incision with intact cyst wall

MALIGNANT TUMORS OF THE EYELID

Lid malignancies are quiet common, most often develop in sun exposed people. Approximately 9-15% of cutaneous malignancies involve the lid. In the periorbital region basal cell carcinoma is the most common cutaneous malignancy.

Malignant lesions can mimic a number of benign conditions and usually require biopsy to determine their nature. As a general rule clinical signs suggestive of malignancy include localized loss of eyelashes, a pearly telangiectatic change, enlarging lesion, diffuse induration, rarely a schirrhous area.

The etiology of carcinoma is exactly unknown but 30% of all varieties are found to be associated with trauma or irritation such as chronic blepharitis, eczema, injuries like pressure of spectacles, radiotherapy.

BASAL CELL CARCINOMA

Basal cell carcinoma is the most common malignancy of the lid. Over 60% involve the lower eye lid and medial canthus. Least commonly involved is the lateral canthus. The average at diagnosis is 60-80 years and males are more commonly affected.

This malignancy can present as three forms. The most common is the nodular pattern which can have an ulcerative pattern or multicentric pattern. Histologically tumor cells grow in nests with peripheral pallisading.

The morphea form or sclerosing pattern is a flat indurated plaque with indistinct borders simulating a blepharitis. Most aggressive form with extensive subcutaneous involvement. Histologically the tumor cells grow in strands or cords with excess connective tissue component. The third rare variant is the clear cell BCC which does not present often in eyelids.

Important risk factors for BCC are fair skin colour, exposure to UV-B radiation, ionizing radiation. Metastasis are rare and they grow very slowly.

The treatment modalities are

1.Surgery using microscopic evaluation of margins. Using Moh's technique the recurrence is <6%. When microscopic control is not used 25% recurrence occurs.

2. Cryotherapy – Nodular type <10mm size 97% cure rate with cryotherapy.

3. Chemotherapy- Cisplatin, Doxorubicin used for recurrent BCC.

SQUAMOUS CELL CARCINOMA

Squamous cell carcinoma of the lid account for 5% of all lid malignancies. It presents with various degrees of malignancies.

- Intraepidermal SCC –less invasive, present as telangiectatic flat area
- Bowens disease- Erythematous, demarcated, scaly patch, growing slowly in a centrifugal manner.
- Squamous cell carcinoma- Raised tumor with eroded centre or can present as a flat indurated lesion

Histologically the epithelium shows complete disorganization with numerous atypical cells. Invasion of the dermis is the hall mark of invasive SCC. Metastasis rate is low and occurs via lymphatics.

Treatment is surgery with microscopic evaluation, and this gives the best results. Radiotherapy is the next treatment of choice. Cryotherapy can be given.

SEBACEOUS GLAND CARCINOMA

It accounts for 1.5-5% of all lid malignancies. Although the tumor is referred to as mebomian gland carcinoma the general term is preferable since this tumor may aris from glands of Zeis, sebaceous glands of caruncle and eye brow. The upper lid is involved more commonly.

In over 60% of cases, the tumor presents as a pseudochalazion, chronic blepharitis, meibomitis, superior limbic keratoconjunctivis. The tumor can present as a focal mass, multicentric tumor involving both the lids or a diffuse lesion with pagetoid spread to tarsal and bulbar conjunctiva.

Most commonly the lesion spreads into the orbits, lymphatic spread to the regional lymphnodes, less commonly other organs including lungs, brain, liver, bones are involved.

Histologically the normal glandular cells are replaced by neoplastic cells arranged in lobular, papillary, cords, diffusely scattered and combined forms. Oil red O stain for fat is useful to differentiate sebaceous carcinoma from other malignancies.

Poor prognostic factors include multicentric origin, lymphatic or orbital spread, tumor diameter more than 10mm, poorly differentiated tumors.

Treatment is by complete excision with 5-6mm of normal tissue on all sides, with frozen section evaluation. Radiotherapy is considered less effective, 55 Gy gives fairly good results.

MALIGNANT MELANOMA

- It accounts for 1% of eyelid tumors. There are four types of cutaneous melanomas .
- Lentigo maligna(Hutchinsons freckle)- radial growth phase existing for many years leading to a vertical growth phase with elevated lesion at this point.
- Superficial spreading melanoma – appears as nodule or plaque with variable pigmentation
- Nodular melanoma – has only vertical growth phase with early involvement of the dermis and has the worst prognosis
- Acro- lentiginous - rare in eyelids

Treatment includes complete preoperative metastatic work-up in tumors >1.5mm in thickness. Wide surgical excision >than 5mm margin

with frozen section evaluation. Regional lymphnode dissection should be done in patients with evidence of microscopic vascular, lymphatic involvement.

LYMPHOMA

Polymorphic B cell lymphoma occurring in immunodeficient patient presents with ulceration of lid skin. Mycosis fungoides , a T cell lymphoma can affect the skin.

Surgical excision does not give good results, usually followed by recurrences. Radiotherapy is the treatment of choice.

KAPOSI SARCOMA

It is a common manifestation of AIDS. The tumor may be nodular and confined to the skin, or florid with locally destructive skin lesion. The tumor is often violaceous in colour and the conjunctival involvement may simulate inflammation. Treatment is with low dose radiotherapy.

METASTATIC EYELID CARCINOMA

Metastatic tumors to the lids are very rare. Breast and lung carcinomas account for 80% of lesions, rarely stomach, kidney, parotid contribute to metastasis. These lesions present as painless nodules or ulcerative lesions. The survival after the appearance of lid metastasis is less than 1 year.

RARE LID MALIGNANCIES

Merkel cell tumor typically involving the upper lid are low grade neoplasms derived from neural crest cells of the skin. They present as painless, violaceous tumors with telangiectasia.

Mucinous sweat gland adenocarcinoma and malignant syringoma are rare tumors arising from eccrine or apocrine sweat glands.

MANAGEMENT OF LID TUMORS

The management of all lid tumors depends on correct histological diagnosis, assessment of tumor margins and the extent of systemic tumor spread.

At the initial evaluation of all lid tumor patients a complete systemic examination including weight, lymphnodes, respiratory and abdominal examination. A complete blood picture, serum liver function tests, chest X- ray, CT scan orbit(in suspected orbital invasion) are obtained.

Diagnosis of lid tumors is based on history, clinical features, examination, investigations and biopsy. Excisional biopsy is preferable for small lesions and involves excising the whole lesion. Incisional biopsy involves taking a piece of the lesion with an adjacent edge of normal tissue for comparison.

NON SURGICAL TREATMENT

CRYOTHERAPY

Epithelial tumors-basal and squamous cell carcinoma, benign lesions- keratosis, papillomas can be treated with direct liquid nitrogen spray or by an appilacator tip that has circulating liquid nitrogen. Using a double or triple freeze –thaw technique tumor must be frozen to -30°c.

The complications are lid notching, depigmentation, loss of lashes. The main disadvantage is the lack of histological proof of clearance.

RADIOTHERAPY

Radiotherapy is as effective as surgery in small tumors. It is useful where surgery is contraindicated. SCC, BCC, lymphoma, kaposis sarcoma are radiosensitive.

Methods used are contact therapy, external beam radiation and brachytherapy. The two most commonly used external beams are orthovoltage photons and megavoltage electrons. Most of the lid tumors are treated with orthovoltage systems.

For BCC 300rads daily fractions of orthovoltage photons to a total dose of 45-50Gy is used. A normal lid margin of 1cm is included in the treatment field. Recurrence rate is 5-10%.

Radiotherapy can be highly effective in the management of capillary hemangiomas. Orhtovoltage therapy 150-250 rad range is given in a single dose. Other indications include papillomas, recurrent tumor after surgical removal. Complications include lid atrophy, skin necrosis, cictrax formation, keratitis, lacrimal drainage obstruction, radiation induced malignancy.

CORTICOSTEROID THERAPY

Kushner's regimen- intralesional therapy is used in the treatment of capillary hemangiomas. Injections of 40mg of triamcinolone and 6mg preparation of betamethasone acetate and betamethasone phosphate are used. Most tumors require 2 or more injections. Involution of tumor begins several days after injection and becomes considerable in 2-4 weeks time. Complications include lid necrosis, lid atrophy, depigmentation and systemic adrenal axis suppression.

Systemic prednisolone and topical therapy with clobetasol propionate have also been used for treating infantile hemangiomas.

LASER THERAPY

Laser therapy has been used for treating capillary hemangioma, BCC, Papilloma, actinic keratosis. Co2 laser vaporizes tissues by heating intracellular water. It also seals lymphatics and could prevent lymphatic spread of tumor. Argon laser, NdYAG laser and dye laser have been used for capillary hemangiomas.

INTERFERONS

Intralesional injections of human recombinant ά- interferon has been used to treat capillary hemangioma and BCC. The mechanism

of action is believed to be inhibition of endothelial and fibroblast proliferation, as well as prostaglandin synthesis. Complications include retinal vasculopathy, fatigue, vomiting, leukopaenia and neurotoxicity.

CHEMOTHERAPY

Topical 5-Fluorouracil has been reported to eliminate SCC insitu. Its use in eye lid tumor is limited by the side effects of ocular irritation. Cisplatinum, doxorubicin and bleomycin has been used in the treatment of non resectable BCC.

SURGICAL TREATMENT OF LID TUMORS

Two techniques are currently accepted for surgical treatment of tumors.

- Mohs fresh tissue technique
- Frozen section control using microscopic evaluation of margins

MOHS MICROGRAPHIC TECHNIQUE

This technique was described by Fredrick Mohs in 1930. Originally zinc chloride was used to fix cancerous tissue and then the tumor is excised in layers and examined microscopically to see the extent of the tumor. Zinc chloride causes ocular irritation and is not is used in lid tumors.

Fresh tissue technique –Mohs chemosurgery. This technique includes,

- Injection of local anesthetic
- Tumor is excised by thin layers
- The sections are stained and numbered
- Tumor can be followed to its depth and extentions beyond the clinically apparent tumor can be removed

Surgeons trained in Mohs chemosurgery removes the tumor and either allows the area to heal by granulation or refers the patient to reconstructive surgeon.

ADVANTAGES

- The use of two different teams to separately resect and reconstruct the eyelid avoids inadequate tumor margin resection.
- 95% cure rate has been achieved
- Low incidence of tumor recurrences

DISADVANTAGES

- The tumor must be interpretable by light microscopy and by frozen sections
- Tumor must grow in a continuous manner without skip areas
- The need for a trained dermatopatholigst .

FROZEN SECTION CONTROL

In contrast to most techniques attempt is made to remove entire tumor at once. Incision is made to include tumor and 2-3mm of normal appearing tissue around tumor. The currently acceptable technique is to take thin slices of the three borders of the excised tumor and examine these sections. This will evaluate all of the specimen margins and is similar to most technique for finding tumor extension no matter in which direction it may be headed.

This approach requires the pathologist to work closely with the surgeon. And if there is extension to any of the tumor margin, further dissection is done only in that area.

GENERAL PRINCIPLES OF LID RECONSTRUCTION

The central focus of eyelid reconstruction is the reconstitution of a dynamic protective covering for the cornea. The key to

a successful eyelid reconstruction is to properly assess the size of the defect and to separate the complex defect into component parts or subunits.

Since eyelid tissues retract in the presence of discontinuity residual lid margins has to be distracted under normal tension in order to assess the true size of the defect. In surgical planning one must assess the amount, location of inner and outer lamellar defects.

ANTERIOR LAMELLAR DEFECTS

1. Direct skin closure-in the pretarsal area defects are sutured vertically
2. Laisser-faire indicated for medial canthal defects. The defect is allowed to heal by granulation in 1-3 weeks time
3. Skin flaps-in oculoplastic surgery flaps are classified as
    - Sliding flap is one in which skin relaxation is obtained by undermining
    - Advancement flap-Tenzel, U, H, O-T, O-Z –in this relaxing incisions are used on either side of the flap to obtain greater mobilization

- Rotation flap—rhombic flap, involves rotation of the flap around an axis with closure of the remaining defect directly or with the skin graft
- Transposition flaps- skin muscle flap from upper eyelid to lower eyelid, forehead to lower eyelid, the nasolabial flap.

Flaps have numerous advantages over skin graft. A flap brings its own blood supply and causes minimal contracture compared to a skin graft. There is increased resistance to infection, and a better colour and texture match is obtained with skin flaps.

4. Skin grafts-Full thickness grafts are preferably taken from preseptal upper lid skin, post auricular, supraclavicular regions.

POSTERIOR LAMELLAR DEFECTS

Posterior lamellar flap - from upper lid tarsal plate for lower lid defect. Posterior lamellar graft - mucosa from upper lip, lower lip, cheek hard palate.

FULLTHICKNESS DEFECTS

Combination of flap and graft are used to reconstruct both anterior and posterior lamella. Depending on the horizontal extent of defect

<25%- direct closure

<33%- direct closure with cantholysis

<50%- lateral rotation flap

>50%- pedicle flap, Kollner for lower eyelid, Cutler- Beard for upper eyelid

MARGIN SHAVE EXCISION

Elevated benign lesions of the lid margins that do not have deep extensions and not involving the cilia can be shaved off flush to the level of the desired lid margin. The raw area is then lightly treated with electrocautery to achieve hemostasis. Notching of the lid does not usually occur.

TRANSMARGINAL PENTAGONAL WEDGE RESECTION

Lesions involving the lid margin or the full thickness of the eyelid can be excised by a pentagonal wedge resection . Pentagonal excision of the tumor is done to eliminate wrinkling of skin when closure is performed.

RECONSTRUCTION OF THE UPPER EYELID DEFECTS

1. **SMALL DEFECTS-DIRECT CLOSURE +/- CANTHOLYSIS**

Up to 25% full thickness defects can be closed primarily in younger patients. Increased laxity in older patients allows direct closure in up to 40% defects with the use of lateral cantholysis. The most

important part of direct closure is approximation of tarsal plate with three absorbable sutures and maintaining continuity of lash line with two sutures in the lid margins.

1. **MEDIUM SIZED DEFECTS-TENZEL LATERAL SEMICIRCULAR ADVANCEMENT FLAP.**

Up to 15mm defects can be repaired by Tenzel flap. After tumor excision and a lateral canthotomy an inferior arching line is drawn beginning at the lateral canthus and extending laterally and inferiorly for 20-30mm up to the lateral extension of the brow, confined to the periorbital skin. This flap is mobilized and brought nasally and sutured to the tarsal remnants of the lateral lid. The conjunctiva is mobilized to the posterior surface of the new lateral upperlid. The lateral canthus is reformed by suturing the flap tissue to the periosteum.

2. **MEDIUM SIZE DEFECTS WITH RESIDUAL TARSUS AFTER TUMOR EXCISION**

MODIFIED TARSOCONJUNTIVAL FLAP is fashioned from the everted upperlid near the wound edge equal to the dimension of the defect. This flap is sutured to the remaining

tarsus of the upper lid. Skin is closed with advancement flap from surrounding skin.

3. LARGE DEFECTS –CUTLER- BEARD BRIDGE FLAP

Defects more than 15mm size can be reconstructed by this technique. This procedure borrows skin, muscle, conjunctiva from the lower eyelid which is transposed to the upperlid defect. The incision is made 5mm below the lowerlid margin, length of incision should match horizontal dimension of the defect. Vertical incisions are made from the ends of horizontal incision. This flap is mobilized under the bridge of the lower lid and suture it in layers into the defect. Leave the flap to stretch for 3 months. In the second stage the bridge flap is divided, leaving more conjunctiva than skin. Conjunctiva is used to reform new lid margin.

In many cases of massive tissue loss of the upper eyelid, when the tissue cannot be borrowed from lower lid or adjacent areas, flaps are brought in from remote areas. **Median forehead flap**- supraorbital and supratrochlear arteries provide excellent blood supply to the median fore head allowing long flaps to be developed. **Temporal forehead flap- Fricke flap**, this is a thick flap requiring a lining with conjunctiva or buccal mucosa.

RECONSTRUCTION OF THE LOWER EYELID

1.SMALL DEFECTS- PRIMARY CLOSURE +/- CANTHOTOMY

Up to 5-10mm defects in the centre can be closed by primary closure by suturing the tarsal plates together. For defects in the lateral or medial ends of the lid, the tarsus is sutured to the medial or lateral canthal tendon.

2.MEDIUM LOWER LID DEFECTS- TENZEL SEMICIRCULAR ADVANCEMENT FLAP

This advancement flap is most useful for moderate size defects in the lateral portion of the lower lid**. REVERSE CUTLER-BEARD** procedure can be used for central defects but has the disadvantage of obscuring the visual axis for 6-8 weeks.

MODIFIED HUGHES PROCEDURE- this procedure consists of a tarso-conjunctival flap brought from the upper lid and using a skin graft for the anterior lamella

3.LARGE DEFECTS-MUSTARDE'S ROTATIONAL CHEEK FLAP

In this procedure a large temporal cheek flap is mobilized by extensive undermining and used to close the defect in the lower eyelid, the defect is usually in the shape of an isosceles triangle. Cheek skin is not a good replacement as it often contains facial hair. A graft of chondromucosal cartilage, conchal cartilage or fascia lata strip lined with buccal mucosa is used to form the posterior lamella.

4.DEFECTS IN THE MEDIAL CANTHAL REGION

It is an aesthetic, functionally important area. **A V-Y or GLABELLAR** flap is used. An inverted V incision is made in the midline of the brow, the flap is undermined, leaving a pedicle at the bridge of the nose. Close the brow defect to form the stem of the inverted Y, this advances the flap and it is rotated and sutured to the defect.

MYOCUTANEOUS ISLAND FLAP- A triangle of skin and muscle inferior to the defect is brought on to the defect as a skin muscle flap. The acute angle of the medial canthus can be reconstructed by passing a 0.3mm titanium wire from the tip of the tarsal plate of upper, lower lid and fixed onto the nasal bone.

EXENTERATION

This is a destructive procedure which involves removal of the globe and all the contents of the orbit along with the periosteum. It is indicated when there is extensive tumor involvement of the ocular adnexae. Following surgery granulation tissue is allowed to proliferate and cover the orbital walls. The patient is normally provided with a spectacle mounted prosthesis to overcome the cosmetic defect.

AIM OF THE STUDY

The aim of this study is to analyze the incidence, pattern of presentation, clinical correlation with histopathological report, treatment response in all lid tumors presenting to a tertiary care hospital.

MATERIALS AND METHODS

This is a prospective study of patients with various lid tumors who presented to the oculoplasty Department of Regional Institute of Ophthalmology and Govt. Ophthalmic hospital Chennai.

Forty patients with lid tumors who have undergone various modalities of treatment have been included in the study.

A standard clinical proforma was filled in all cases with salient features including history, age, sex, presentation, duration of growth, laterality, prevous surgical treatment, h/o recurrences, etc. Patients were subjected to basic investigations. If there was clinical evidence or suspicion of metastasis, CT scan, renal and liver function tests were performed.

Each tumor was studied histopathologically with the help of excision/ incision biopsy. All operable tumors were treated in our hospital and the lid defect was reconstructed using appropriate procedures. Patients were discharged after wound healing and were followed up on outpatient basis at 1 month, 3 months and 6 months interval. During follow up patients were examined in detail to detect recurrences or metastasis. Few patients were lost for follow up.

INCLUSION CRITERIA – Patients with various benign and malignant tumors who presented to the o.p.d were included in the study.

EXCLUSION CRITERIA - Patients with chalazion, a chronic granulomatous inflammation have not been included in the study. Patients with congenital or traumatic lid defects have not been included in the study.

OBSERVATIONS AND ANALYSIS

1. **Study group consisted of 40 patients**

In this group 25 patients with benign lid tumors and 15patients with malignant lid tumors were studied.

2. Age distribution

Age Group	Benign	Malignant
< 10 yrs	5 (21.74%)	-
10-29 yrs	6 (26.09%)	1(5.88%)
30-45yrs	7 (30.43%)	3 (17.65%)
46-60 yrs	4 (17.40%)	4 (23.53%)
>60 yrs	1 (4.3%)	9 (52.94%)

In this study, malignant tumors were commonly in the age group between 60-85 years and benign tumors were common in the age group of 30-45 years.

The AFIP study has found malignant tumors to be common between sixth and ninth decades of life. Similar to this majority of malignant tumors were common in the older age group.

Age distribution of individual tumors

Tumor	Range	Average age
Basal cell carcinoma	67-68 years	67.5

Meibomian carcinoma	42-84 years	62.2
Squamous cell carcinoma	55-68 years	61.1

According to Carol L.Shields, meibomian carcinomais common between fifth to ninth decades and basal cell carcinoma between 50-80 years. In our study, we found younger age group patients presenting with meibomian carcinoma.

3. Sex distribution

Tumor	**Male**	**Female**
Benign	12(52.17%)	11(47.83%)
Malignant	6 (35.29%)	11(64.71%)

Sex distribution in malignant tumors

Tumor	**Male**	**Female**
Meibomian carcinoma	3(37.5%)	5(62.5%)
Squamous cell carcinoma	2(50%)	2(50%)
Basal cell carcinoma	1(50%)	1(50%)

Incidence of meibomian carcinoma was more among female patients. This correlates with the study of Carol. L Shields who found slight female preponderance on meibomian carcinoma

4. Lid involved

	Benign	**Malignant**
Upper lid	16(69.57%)	10(58.82%)
Lower lid	7(30.43%)	5(29.41%)
Both lids	-	2(11.76%)

In this study, benign and malignant tumors were found to occur more commonly in the upper lid

5. Specific sites of involvement of malignant tumors

Tumor	**UL**	**LL**	**BL**	**Canthus**	
				Medial	**Lateral**
Meibomian carcinoma	5(62.5%)	2(25%)	1(12.5%)	1	3
Squamous carcinoma	4(100%)	-	-	-	1
Basal cell carcinoma	-	2(100%)	-	-	-
NHL-B cell	1	-	-	1	-

Malignant melanoma	-	1	-	-	-
Secondaries	-	-	1	1	-

- Ni et al 1982(70.12%), Doxanas & Green 1984(48.71%) and Wolf et al 1984(58.53%) have reported sebaceous carcinoma commonly on the upper eyelid. Similar to this majority of sebaceous carcinomas (62.5%) in this study, were found to occur on the upper eyelid.
- Aurora Al and Blodi FC found Basal cell carcinoma to be more common in the upper eyelid and the next most common site was the medial canthal area. In this study, both the cases of basal cell carcinoma were found in the lower lid.
- In this study squamous cell carcinoma was found to occur more commonly in the upper lid similar to other studies.

6. Size of the tumor

Size of the tumor at presentation ranged from 5-25mm

7. Involvement of lid margin

This was found in 10(43.48%) patients with benign tumors and the lid margin was involved in 9(52.94%) patients with malignant tumors

8. Predisposing factors

Trauma has been described most often in literature as a predisposing factor for squamous and basal cell carcinoma. In this study 25% of malignant tumors & 20% of benign tumors had h/o trauma. One patient with NHL- B cell lymphoma was HIV positive. Majority of the patients were from the rural areas with history of exposure to sun for long periods. Few patients gave a history of chronic blepharitis. Association with Diabetes mellitus - Fifteen percentage of patients with benign tumors and 25.6% of patients with malignant tumors were diagnosed to have diabetes mellitus.

9. Incidence of benign tumors

Hemangioma	-	6 (26.08%)
Neurofibroma	-	4 (17.4%)
Intradermal nevus	-	3 (13.04%)
Dermoid	-	1 (4.35%)
Molluscum	-	1 (4.35%)

Pyogenic granuloma	-	1 (4.35%)
Trichoepithelioma	-	1 (4.35%)
Papilloma	-	2 (8.70%)
Sebaceous cyst	-	4 (17.40%)

Hemangomas constituted the most common of the benign tumors, corresponding with the observation of Aurora Al Blodi FC & Char et al .

Malignant

Sebaceous carcinoma	-	8(47.06%)
Squamous cell carcinoma	-	4(23.53%)
Basal cell carcinoma	-	2(11.76%)
Malignant melanoma	-	1(5.9%)
NHL-B cell	-	1(5.9%)
Secondary tumor	-	1(5.9%)

Aurora, Blodi et al have found BCC to be the commonest malignancy in the periocular region, constituting about 80-90% of all malignancies. The second most common tumor is Squamous cell carcinoma, the incidence has been variable, Mortada 1967 (30.21%), Anderson 1982 (4.7%).

The third most common eyelid malignancy has traditionally been sebaceous carcinoma. Doxar and Green 1984 (4.7%), Ni and Shangha et al (32.7%). In this study, however we found an increased incidence of sebaceous carcinoma.

This results correlates with the similar study conducted at our institute in which there was an increased incidence of sebaceous carcinoma. This could be attributed to the high humidity and sweat factor in the coastal areas.

The next most common malignancy is squamous cell carcinoma followed by BCC. A rare case of malignant melanoma, NHL- Large B cell lymphoma, metastatic tumor has been reported in this study.

Clinical presentation of malignant tumors

Presentation	**Sebaceous ca**	**BCC**	**SCC**	**Percentage**
Nodule	3	-	2	35.71%
Ulcerative growth	5	2	2	64.29%

The most common presentation of malignant tumors was in the form of an ulcerative growth. Nodular growth pattern was seen in 35.71% of patients.

- Majority of sebaceous carcinoma presented in ulcerative form(62.5%)
- The two cases of BCC presented in the form of ulcer with elevated margins
- SCC showed both nodular and ulcerative forms

10.Tumor infiltration

Tumor	Globe	orbit
Sebaceous carcinoma	1 (12.5%)	1 (12.5%)
BCC	-	-
SCC	-	-

Tumor infiltration of the globe or orbit is most common in cases of sebaceous carcinoma, incidence being 6-17% in studies by Boniuk, Zimmerman et al and Ginberg et al.

In our study extension of tumor to globe and orbit was more common in sebaceous carcinoma.

11.Metastasis to regional lymph nodes

It was found in 6 patients with malignant tumors on presentation

Sebaceous carcinoma	-	2(25%)
Squamous cell carcinoma	-	1(25%)
BCC	-	1(50%)

NHL- B cell lymphoma, secondary lid tumors presented with metastasis to regional lymph nodes. According to the AFIP series, the incidence of lymph node extension in sebaceous carcinoma is 28%. This correlates with our study reports.

12.Correlation with histopathological diagnosis

HPE correlation was obtained in 85% of benign tumors and 80% of malignant tumors.

13.Management

Benign tumors

- In most of the tumors up to 7mm in size, excision of the tumor was done and the specimen was sent for HPE. There was no structural and functional abnormality of lids postoperatively.
- In patients with pyogenic granuloma, papilloma, molluscum up to 5mm in size marginal shave excision was done

- In cases with neurofibromas surgical debulking of the tumor was done

- In three cases of hemangioma excision was done and two cases of hemangiomas were treated with systemic steroids. The two cases treated with oral dexacortil, showed regression on follow up.
- In a patient with junctional nevus, excision of the lesion with primary closure of the defect in three layers was done.

Malignant tumors

Tumors	**Pri. Cl**	**With cantholysis**	**Flaps**				**RT**	**Exentr**
			TLAF	**MF**	**GF**	**CuB**		
Meib ca	1	1	1	1	2	1	-	1
BCC	-	-	-	1	1	-	-	-
SCC	1	2	1	-	-	-	1	-
NHL Bcell	-	-	-	-	-	-	1	-
Secondaries	-	-	-	-	-	-	-	1

- In one case with sebaceous carcinoma and in one case of SCC involving up to one fourth of the lid, tumor was excised by a pentagonal incision and the resulting defect was closed by direct approximation in three layers i.e. conjunctiva and trarsus, orbicualris muscle and skin.
- In three cases where difficulty was experienced with direct closure a lateral cantholysis was performed in order to relax the the rest of the lid and to allow a good closure of the defect.
- One case of sebaceous carcinoma involving the lower lid and medial canthal area was repaired after excision, with the help of glabellar rotation flap and Mustarde's advancement flap.
- One case of sebaceous carcinoma, one case of SCC, the tumor wase excised and the defect repaired with Tenzel lateral advancement flap.
- One case of meibomian carcinoma, one case of BCC involving the medial canthus the tumor was excised and the defect repaired with Glabellar flap.
- In one case of sebaceous carcinoma, after tumor excision Cutler Beard technique was performed to close the defect in the upper lid.

The bridge was released after 9 weeks and secondary reconstruction was done.

- A rare case of NHL large B cell lymphoma was referred to Barnard institute for radiotherapy.
- A rare case of malignant melanoma was treated with excision, the patient developed secondaries and was referred to Department of oncology.
- One case of recurrent meibomian carcinoma and one case of secondary tumor infiltrating the eyelid and the orbit under went orbital exentration

14.Surgical complications

- Mild Ptosis occurred in one case of neurofibroma after debulking
- Lid notching was noted in a case of sebaceous carcinoma following primary closure
- Large scar line was noted in a case which underwent Mustarde's cheek rotation flap
- Poor lid closure was found in a case of sebaceous carcinoma for which Tenzel lateral advancement flap was performed

15. Recurrence

Recurrence was reported in one patient. The patient was diagnosed to have sebaceous carcinoma during the initial presentation

Incidence of recurrence in all tumors - 5.89%

Incidence in sebaceous carcinoma - 12.5%

Epstein GA et al and Harvey JT et al have reported recurrence in patients with sebaceous carcinoma to be between 9-36%. In our study the incidence of recurrence is 12.5%.

16.Mortality

Among 17 patients with malignant tumors, one patient with sebaceous carcinoma expired. One patient with malignant melanoma had systemic metastasis during initial presentation.

The AFIP study and Rao, Mc Lean et al have quoted 15-30% tumor related mortality for sebaceous carcinoma. In our study the mortality is 12.5% for sebaceous carcinoma.

Birge et al – 20.5%, Aurora et al – 40%, have reported mortality figures for SCC. Mortality for BCC is between 2-11%. In our study no deaths have occurred in patients with SCC, BCC.

SUMMARY

A total of 40 patients (23 benign and 17 malignant) with lid tumors were studied. Benign tumours were common between 2nd –4th decade and malignant tumors in 6th decade and above. Two patients of younger age group also presented with BCC and meibomian carcinoma. In contrast to other studies we found increased incidence of malignancies occurring in females esp. Meibomian gland carcinoma in our study.

There was a predilection for upper lid in 62.5% of meibomian carcinomas and 100% of squamous cell carcinomas. BCC involved mainly the lower lid and canthal areas. History of trauma was there in 20% of benign tumors and 20% of malignant tumors Hemangiomas rank first in commonly occuring benign tumors and gland carcinoma in the malignant group. Majority of meibomian gland carcinomas presented in the form of nodules whereas BCCs and squamous cell carcinomas predominantly showed ulceration. Tumor infiltration to adjacent

structures was more common in BCC's and squamous cell carcinomas. Correlation with HPE diagnosis was obtained in 80% of malignant tumors.

Excision of the tumor was the common modality used for management of benign tumors. In the malignant group, tumor excision with primary closure was done in 26.6% of cases, cantholysis was combined in another 26.6% of cases. Various types of rotation flaps / lid sharing techniques were used in 46.6% of cases. 26.6% of cases were referred for radiotherapy. The incidence of recurrence was 12.5% in malignant tumors. Recurrence was more commonly reported in meibomian carcinomas. Both patients who expired during follow up had systemic metastasis at presentation. The mortality rate is 12.5% .

CONCLUSION

1. Benign tumors commonly affected patients in age group of 30-45 years and malignant tumors >60 years of age.
2. The incidence of malignant tumors was more in females.
3. In contrast to western studies meibomian gland carcinoma appeared to be the most common type in this study and upper lid was the most common site of involvement.
4. Meibomian carcinoma can be considered as the first diagnosis in cases presenting with nodulo ulcerative form and BCC or squamous cell carcinoma in cases presenting in the form of ulcers.
5. Histopathological diagnosis differed from the clinical diagnosis in 20% of malignant tumors and in 15% of benign tumors. So, all excised eyelid lesions should be submitted for histopathological examination.
6. All the recurrent cases were diagnosed as meibomian carcinomas and recurrence rate of 12.5% correlates with other studies.
7. Lid malignancies showed a predilection for lid margin where excision necessitates plastic repair.
8. Malignant tumors when detected early, were found to respond well to primary excision of tumor with appropriate lid repair procedures.
9. Adequate surgical clearance (atleast 5mm of normal tissue around the tumor) should be obtained to prevent recurrence.
10. The central focus of eyelid reconstruction is the reconstitution of a dynamic protective covering for the cornea. The key to successful reconstruction is to properly assess the size of the defect and to separate the complex defect into component subunits.

11. In surgical planning one must assess the amount, location of the defect and utilize various techniques to bring about a good cosmetic correction and functional

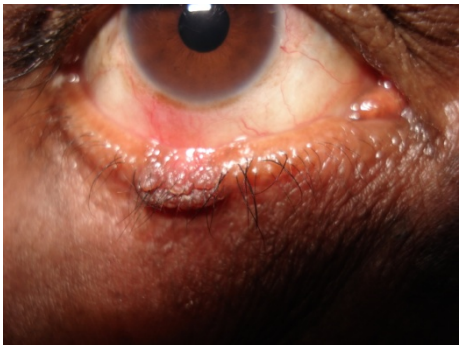
MULTIPLE PAPILLOMA

PAPILLOMA

XANTHELASMA

PLEXIFORM NEUROFIBROMA

CAPILLARY HEMANGIOMA



VERRUCA VULGARIS

MOLLUSCUM CONTAGIOSUM

LUPUS VULGARIS

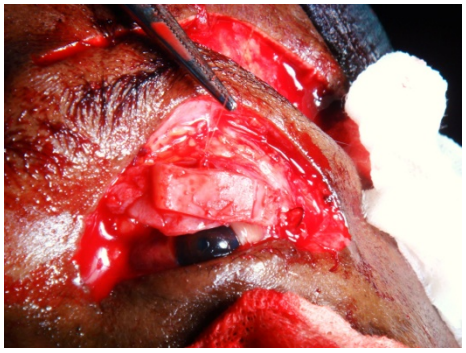
SEBACEOUS CYST

JUNCTIONAL NEVUS

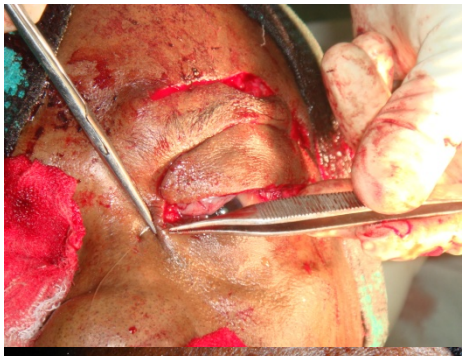
STURGE WEBER HEMANGIOMA

CAPILLARY HEMANGIOMA

RECURRENT MCC



SEPTAL CARTILAGE GRAFT



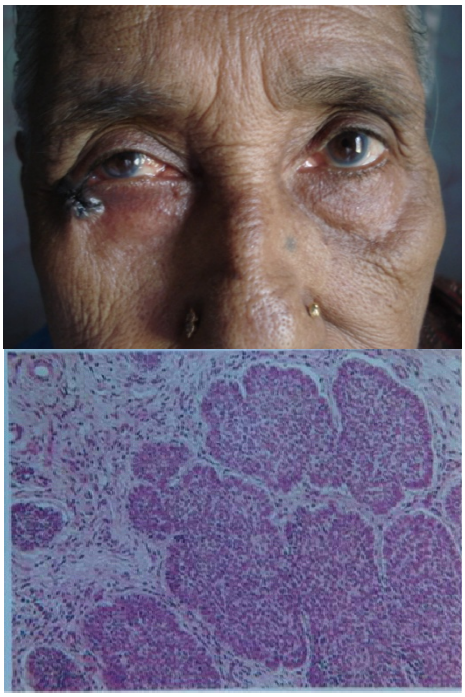
FOREHEAD ROTATIONAL FLAP IMMEDIATE POST - OP

LATE POST - OP

METASTATIC MUCOEPIDERMOID CARCINOMA

TOTAL EXENTERATION

TRICHOEPITHELIOMA



BCC

HPE - BCC

NHL – LARGE B – CELL LYMPHOMA – HIV +ve

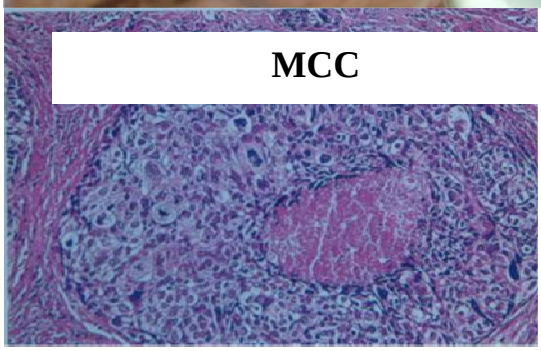
MEIBOMIAN CELL CARCINOMA

CREATING A BRIDGE

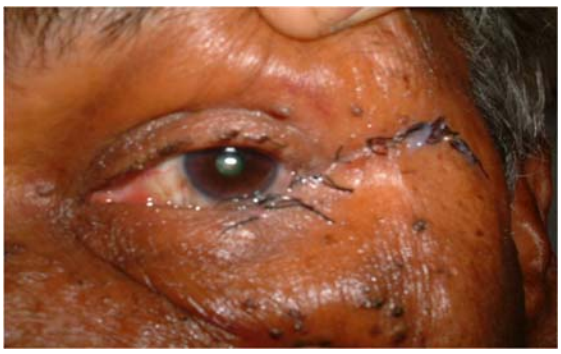
SUTURING OF BRIDGE

IMMEDIATE POST - OP

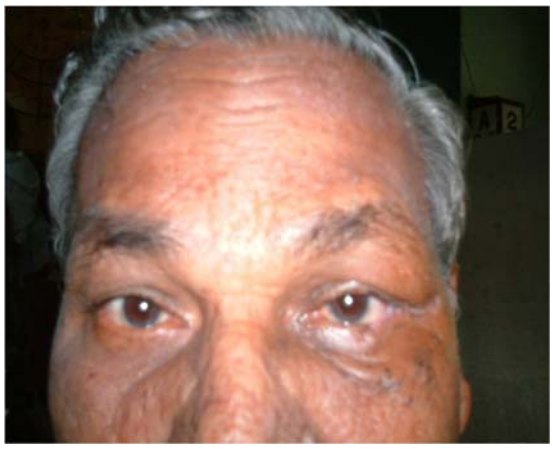
MCC



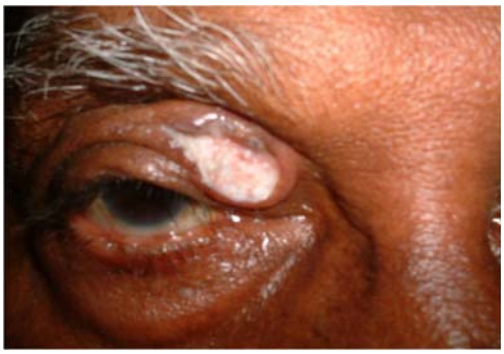
HPE - MCC



TENZEL FLAP IMMEDIATE POST - OP



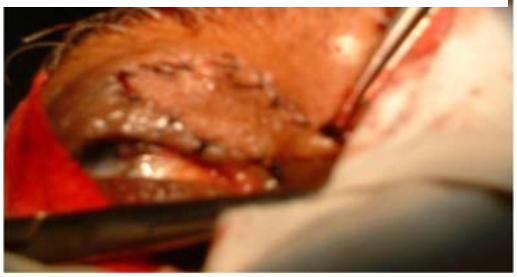
LATE POST - OP

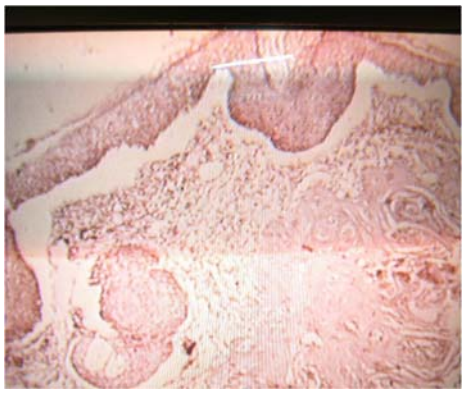


SCC

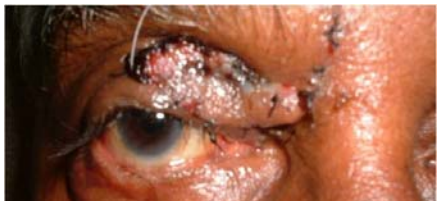
TUMOR EXCISION

GLABELLAR FLAP





HPE - SCC



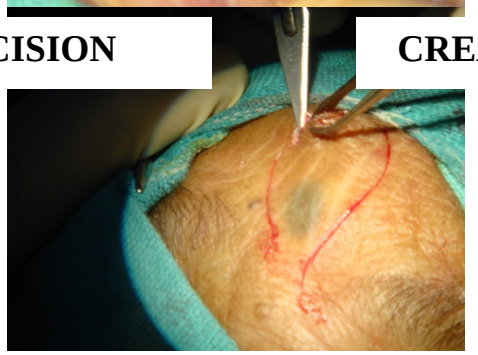
IMMEDIATE POST - OP

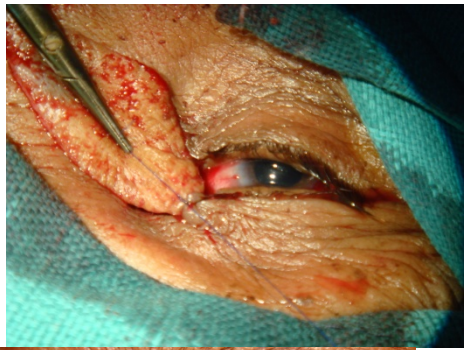
AFTER FORMATION OF MEDIAL

BCC

TUMOR EXCISION

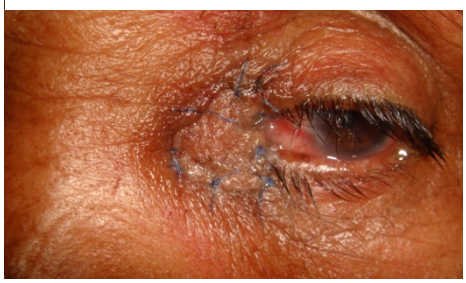
CREATING GLABELLAR





CLOSURE OF DEFECT

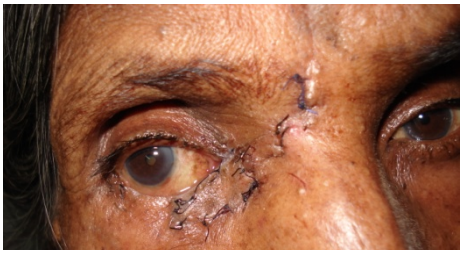
2nd STAGE – FORMATION OF



LATE POST - OP

MCC INVOLVING MC & ENTIRE

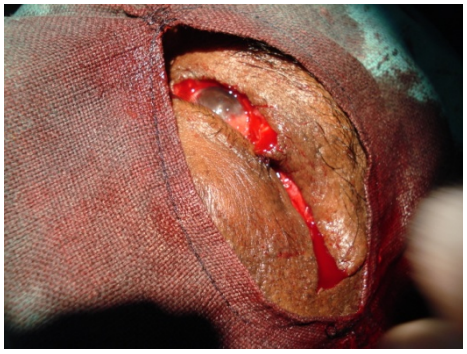
COMBINED MUSTARDE'S & GLABELLAR FLAP

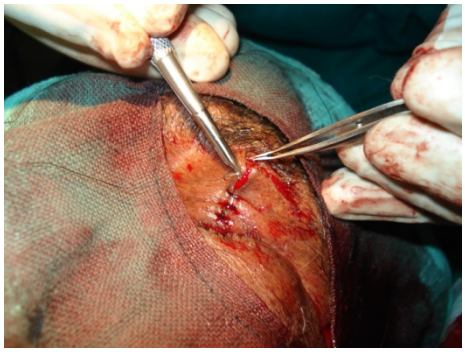


IMMEDIEATE POST - OP

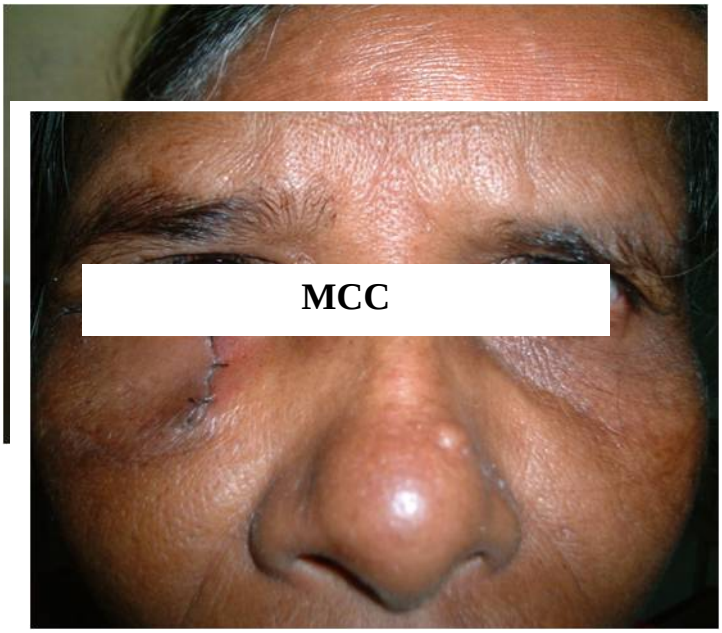
MCC

CREAT
CI





LATE POST - OP

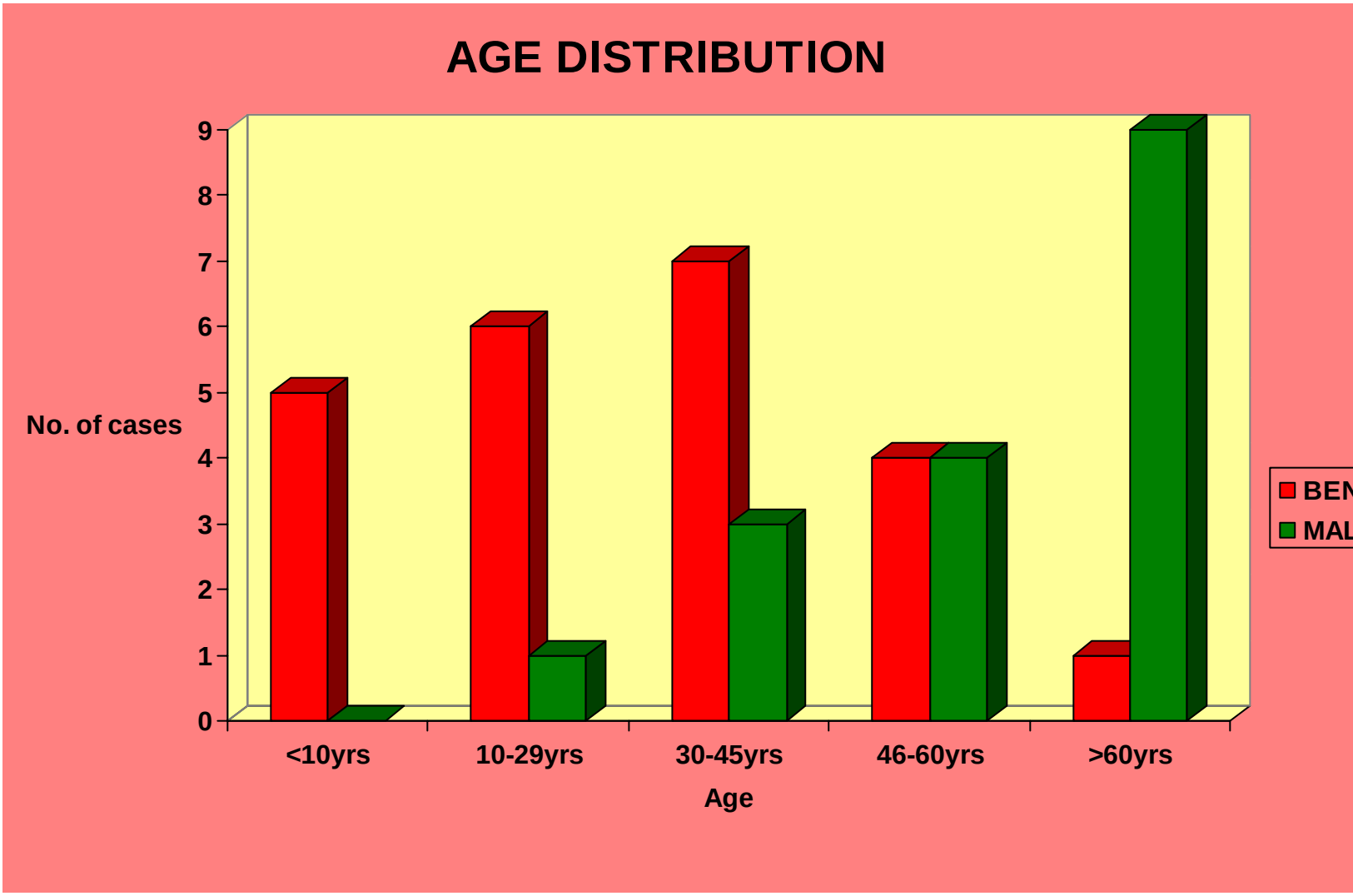


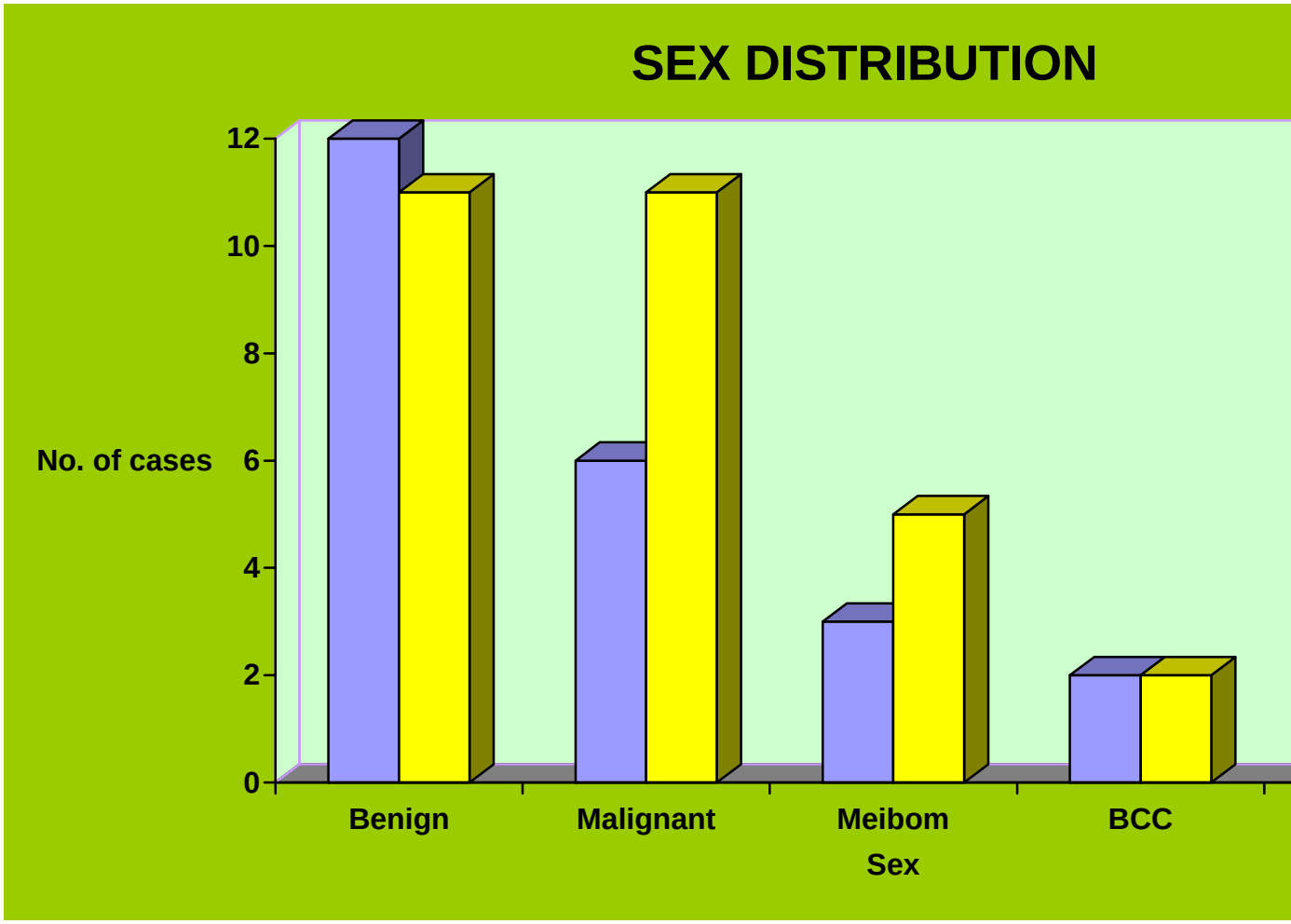
EXCISION WITH PRIMARY CLOSURE

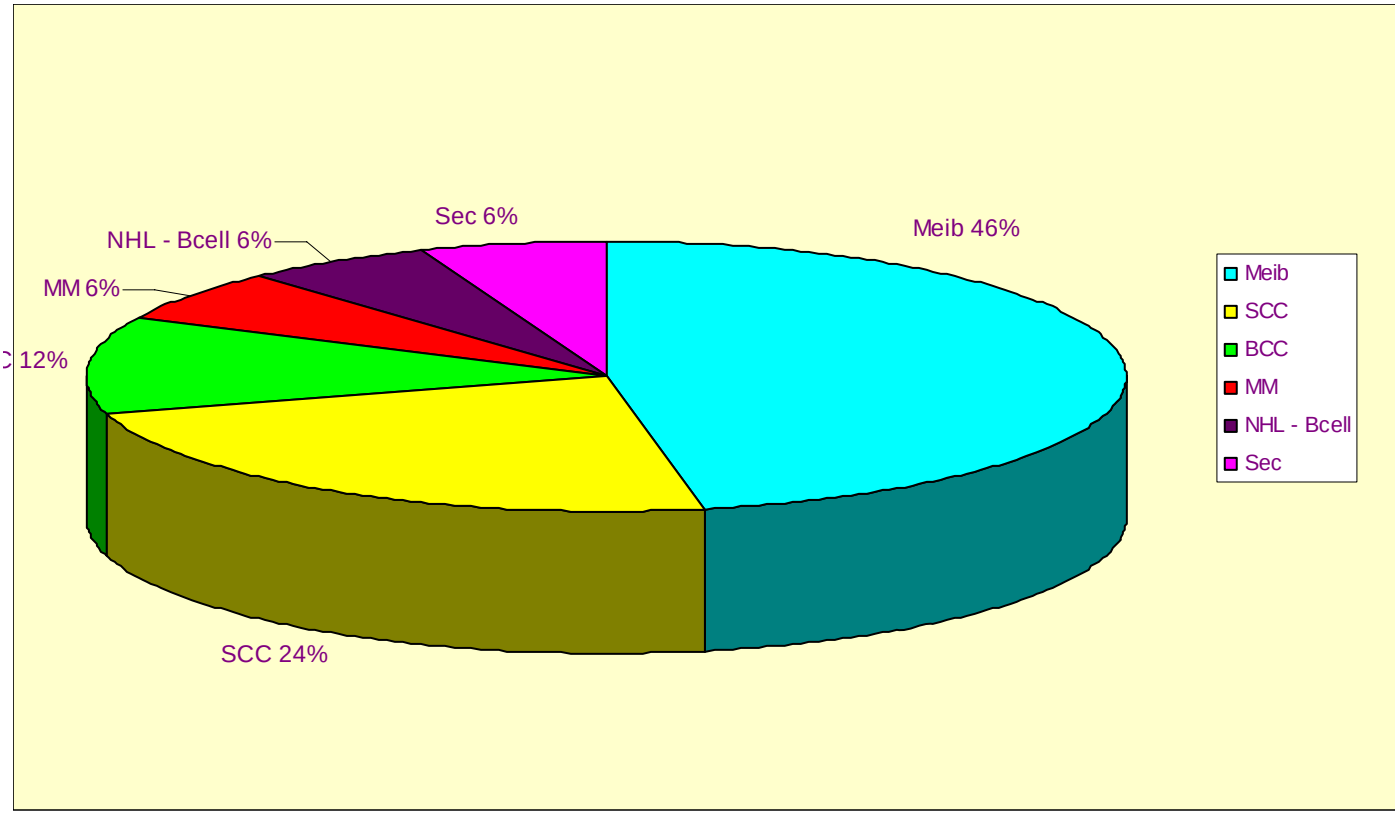
MASTER CHART

SL No	Name	Age /Sex	Presentation	Lid Involved	Involvement of can thus margin	Consistency	Skin Around the Tumor	Associated Iid anomalies	Infiltration of orbit	Lymph nodes	Clinical impression
1.	Valliammal	68/F	Ul, Gr	RLL	MC	H	DC	Ect, ma	Con	-	SCC
2.	Mahalakshmi	45/F	Sw	LUL	-	S	-	Pt	-	-	Hem
3.	Arumugam	25/M	Gr	LUL	MC LC	S	DC	Pt Ma	-	-	NF
4.	Immanuel	7/M	Sw	LUL	-	S	DC	Pt	-	-	Hem
5.	Muthu	67/M	No	LUL	-	F	DC	Pt. Ma	-	-	MBC
6.	Lakshmi	50/F	Sw	RUL	-	S	-	-	-	-	SC
7.	Bharathi	2m / F	Sw	LUL	LC	S	DC	Pt	-	-	Hem
8.	Mariammal	40/ F	Sw	RLL	-	S	-	-	-	-	Moll
9.	Manikandan	17/M	Sw	RUL	LC	S	DC	Pt	-	-	NF
10.	Sivakumar	30/M	Sw	LLL	-	S	-	-	-	SM	PG
11.	Fathima Beevi	67/F	Ul	RLL	-	F	DC	Ma	-	PA	BCC
12.	Poongodi	39/F	Sw	LUL	-	S	-	-	-	-	SC
13.	Prema	30/F	Sw	RUL	-	S	-	Pt	-	-	SC
14.	Kattan	42/M	Gr,ul	LLL	LC	H	DC	Ma, Ect	-	-	MBC
15.	Sampath kumar	50/M	Gr, ul	RUL	LC	H	DC	Ma, Ect	-	PA	SCC
16.	Murugan	3m/M	Sw	LUL	-	S	DC	Pt	-	-	Hem

17.	Venkatesan	30 /M	Gr, Ul	LUL	MC	F	DC	Pt, Ma	-	SM	Lympho ma
18.	Vinodhini	1/F	Sw	RUL	LC	S	DC	Pt	-	-	Hem
19.	Amudhavalli	70/F	Gr	LLL	MC	F	-	Ma	-	-	Nev
20.	Muthammal	45/F	Gr, Ul	LUL	-	H	DC	Pt	-	-	MBC
21.	Kavitha	20/F	Sw	RUL	-	S	DC	Pt	-	-	NF
22.	Sathish	25/F	Sw	RUL	-	S	-	-	-	-	Der
23.	Meenakshi Sundaram	68/M	Gr, Ul	LUL	LC	H	DC	Ect	-	PA	MBC
24.	Parvathi	50/F	Gr	LLL	-	F	DC	-	-	-	Papilloma
25.	Pencilliah	60/M	Gr	RLL	LC	F	DC	-	-	-	Nev
26	Sivagami	65/F	No	LUL	-	H	-	-	-	-	SCC
27.	Subramani	68/F	Gr, Ul	RLL	-	H	DC	Ect, Ma	-	-	BCC
28.	Venkatammal	60/F	No	RULL	-	F	-	Pt	-	-	MBC
29.	Titus	5/M	Sw	RUL	LC	S	DC	Pt	-	-	NF
30.	Vasantha	20/F	Sw	LUL	-	F	-	-	-	-	Der
31.	Tulukanama	84/F	Gr, Ul	LUL, LLL	LC	H	DC	Ect, Ma	+	PA	MBC
32.	Senthil Vel	50/M	Gr	LLL	-	S	-	Ect,	-	-	Papilloma
33.	Mohan	43/M	Gr	RLL	-	F	DC	-	-	-	Papilloma
34.	Penicillama	62/F	No	RUL	-	F	-	-	-	-	MBC
35.	Subbamma	60/F	No	LUL	-	H	DC	Pt	-	-	SCC
36.	Sumathi	40/F	SW	LUL	-	S	-	Pt	-	-	Hem
37.	Mahalakshmi	18/F	Gr	LUL, LLL	MC, LC	H	DC	Pt	+	SM, PA	Sec
38.	Munusamy	65/M	Gr, Ul	LUL	-	H	DC	Pt, MA	-	-	SCC
39.	Balamurugan	15/M	Sw	RUL	-	S	DC	Pt	-	-	Hem, Nevus
40.	Pattammal	60/F	Gr	RLL	-	F	-	-	-	-	Der


AGE DISTRIBUTION
No. of cases
9
8
7
6
5
4
3
2
1
0
<10yrs
10-29yrs
30-45yrs
46-60yrs
>60yrs
Age
BEN
MAL


SEX DISTRIBUTION
No. of cases
12
10
8
6
4
2
0
Benign
Malignant
Meibom
BCC
Sex


Sec 6%
Meib 46%
NHL - Bcell 6%
MM 6%
12%
SCC 24%
Meib
SCC
BCC
MM
NHL - Bcell
Sec

PART II

PART III

PART I

PROFORMA

Name : DOA :
Age/Sex : DOS :
Hos. No : DOD :
Occupation :

HISTORY

Onset
Progress
Pain
Discharge / Bleeding
Similar lesions elsewhere
Trauma
Defective vision
Treatment - Medical / Radiotherapy / Surgical
- H/O. Treatment for ENT symptoms

PERSONAL HISTORY

Diabetes / Hypertension
Loss of appetite / weight
Bowel / Bladder habits

ON EXAMINATION

Visual axis
Extra ocular movements
Bony orbit / proptosis

LIDS

Tumor / ulcer
Upper lid / lower lid
Medial / lateral canthus
Margin involvement

Size, shape, measurement
Base / floor of ulcer
Discharge / blood
Tenderness / consistency
Skin around tumor
Mechanical ptosis / ectropion
Madarosis / trichiasis
Adherence to bone / globe

CONJUNCTIVA
Extension of tumor
Bulbar / palpebral
Congestion / discharge

CORNEA
AC
IRIS
PUPIL
LENS
FUNDUS
VISION
LACRIMAL PASSAGES
IOP
LYMPHNODES
Size, consistency, mobility, tenderness

GENERAL EXAMINATION
CVS/ RS/ CNS/ ABDOMEN

CLINICAL IMPRESSION

INVESTIGATIONS
Blood
Urine
Orbital X-ray/ B-scan
CT-scan

HISTOPATHOLOGY
Gross
Microscopy

Impression

TREATMENT
Medical
Surgical- Excision
Excision/ reconstructive procedure
Exenteration
Adjuvant therapy
Radiotherapy/ Chemotherapy

FOLLOW UP

RECURRENCE

METASTASIS

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LID TUMORS –

MANAGEMENT IN A

TERTIARY CARE CENTRE – A STUDY

INDEX TO MASTER CHART

Sw - Swelling
H - Hard
F - Firm
S - Soft
Tr - Trauma
In - Indurated
DC - Discoloured
Gr - Growth
Ul - Ulcer
UL - Upper lid
LL - Lower lid
C - Canthus
M - Margin
N - Normal
Pt - Ptosis
Ect - Ectropion
Ma - Madrosis
Con - Conjunctiva
Bo - Bone

SCC - Squamous cell carcinoma
MBC - Meibomian carcinoma
SC - Sebaceous cyst
Hem - Hemangioma
PG - Pyogenic granuloma
Moll - Molluscum
Der - Dermoid
NF - Neurofibroma
Pap - Papilloma
Nev - Nevus
(+) - Present
(-) - Absent
Ex - Excision
LC - Lateral cantholysis
M.s - Marginal shave excision
TLAF - Tenzel lateral adv flap
MF - Mustarde' s flap
Cu.B - Cutler Beard
Gl.f - Glabellar flap

Or - Orbit
PC - Primary closure
Sk - Skin
RT - Radiotherapy
PA - Preauricular
CT - Chemotherapy
SM - Submandibular
EX - Exenteration
BCC - Basal cell carcinoma
ST - Steroids

LIST OF SURGERIES PERFORMED

Sl. No.	Name	Age	Sex	Hosp. No.	Diagnosis	Surgery
1.	Kannan	20	M	6980	LE - Corneal tear	Wound repair
2.	Kumari	60	F	49501	RE - Corneo scleral tear with uveal prolapse	Wound repair
3.	Shanmugam	59	M	407011	RE - Immature cataract	SICS with IOL implantation
4.	Lakshmi	45	F	400549	RE - Immature cataract	SICS with IOL implantation
5.	Manjula	45	F	19618	LE-Chronic dacryocystitis	Dacryocystorhinostomy
6.	Kavitha	25	F	29302	RE - Pterygium	Excision with Autograft

7.	Ramani	35	F	48284	LE - Pterygium	Excision with Autograft
8.	Manjula	6	F	48287	LE - Lower lid tear	Wound repair
9.	Karthik	12	M	64493	RE - Upper lid tear	Wound repair
10.	Rajaram	71	M	70225	LE - Lagophthalmos	Lateral tarsorraphy
11.	Jayalingam	35	M	40586	RE - Panophthalmitis	Evisceration
12.	Bharathi	60	F	406013	LE - Chronic dacryocystitis	Dacryocystectomy
13.	Tiripuram	70	F	405817	LE - Non healing ulcer	Therapeutic keratoplasty
14.	Kannan	60	M	403303	LE - Non healing ulcer	Therapeutic keratoplasty
15.	Saroja	45	F	402510	LE - Immature cataract	SICS with IOL
16.	Ramesh	26	M	406799	RE - Immature cataract	SICS with IOL
17.	Ranijitham	50	F	406854	LE - Immature cataract	SICS with IOL implantation
18.	Shakthi	29	F	39246	LE - Cystic Pterygium	Excision with autograft
19.	Subramani	49	M	50406	RE - Conj. tear	Wound repair
20.	Kuppu	40	F	404460	LE - Mature cataract	SICS with IOL implantation

21.	Vinayagam	65	M	40445 4	RE - Nuclear cataract	SICS with IOL